



Acharya 18-18-18

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application

Applicant(s): S. Acharya et al.

Case: 18-18-18

Serial No.: 10/659,757

Filing Date: September 10, 2003

Group: 2127

Examiner: Kenneth Tang

Title: Adaptive Scheduling of Data
Delivery in a Central Server

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature:  Date: May 9, 2005

RESPONSE TO OFFICE ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated February 9, 2005 in the above-identified application, please consider the remarks below:

REMARKS

The present application was filed on September 10, 2003 with claims 1-26. Claims 1-26 remain pending. Claims 1, 25 and 26 are the pending independent claims.

In the outstanding Office Action dated February 9, 2005 the Examiner: (i) rejected claims 1-26 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 and 5 of U.S. Patent No. 6,502,062 (hereinafter "Acharya") in view of U.S. Patent No. 5,261,099 (hereinafter "Bigo"); and (ii) rejected claims 1-4, 18, 25 and 26 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,434,589 (hereinafter "Lin") in view of Bigo.

In this response, Applicants traverse the double patenting and §103(a) rejections. Applicants respectfully request reconsideration of the present application in view of the following remarks.

Applicants acknowledge the indication of allowable subject matter in claims 5-17 and 19-24.

With regard to the rejection of claims 1-26 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3 and 5 of Acharya in view of Bigo, Applicants assert that claims 1-26 recite elements of the present invention that are not described or suggested by the combination of these references.

Independent claim 3 of Acharya recites a method for scheduling the servicing of job requests in a point-to-point communication system. Dependent claim 5 of Acharya recites the storing of job requests in a queue corresponding to the local channel server, and the determining of an adaptive schedule for servicing the job requests in the queue.

Bigo discloses an interrupt program that receives information and stores it into a data buffer for processing by a main program. The interrupt program generates an interrupt signal that stops the execution of a main program, which is working on previously received information, in order to give control to the interrupt program. At the end of the interrupt program, the main program restarts execution from the breakpoint.

Independent claim 1 of the present invention recites a method for scheduling responses in a point-to-point communication system. A plurality of job requests are received at a central server. An adaptive schedule is determined for transmitting data responsive to the job requests. When the servicing of a first job request is interrupted, an unserviced portion of the data is returned from a channel server to the central server, and the unserviced portion is serviced via a second channel. A second job request is then serviced via the first channel in accordance with an updated schedule.

While Acharya recites a method for scheduling the servicing of job requests, and Bigo discloses an interrupt signal which stops the execution of a main program, the proposed combination fails to disclose that when a first job request on a first channel is interrupted, an unserviced portion of the data is subsequently serviced via a second channel. This allows the second job request to be serviced via the first channel in accordance with an updated schedule. The Examiner, at page 6, section 15, of the Office Action, contends that these elements are described in column 1, line 65 through column 2, line 2, and column 4, lines 29-48 of Bigo. While Applicants note the definition of a “break point” in these portions of Bigo, there is no disclosure of an unserviced portion of data subsequently being serviced via a second channel.

Applicants assert that claims 2-26 are patentable for at least the reasons identified above with regard to independent claim 1. Accordingly, withdrawal of the double patenting rejection of claims 1-26 is respectfully requested.

With regard to the rejection of claims 1-4, 18, 25 and 26 under 35 U.S.C. §103(a) as being unpatentable over Lin in view of Bigo, Applicants submit that the Examiner has failed to establish a *prima facie* case of obviousness, in that the collective teachings of Lin and Bigo do not meet the claim limitations, there is no demonstrated motivation for the proposed combination, and there is no reasonable expectation of success.

Applicants initially assert that the collective teachings of Lin and Bigo, assuming for purposes of argument that these references are combinable, fail to disclose techniques described in independent claims 1, 25 and 26 of the present invention.

Lin discloses a computer-based method of scheduling a first job for processing by a resource. Resources capable of processing the first job are identified, and a second job is selected for rescheduling from the jobs currently being processed by the identified resources. The first job is scheduled for processing by the resource currently processing the second job and the second job may be rescheduled for processing by resources other than the identified resources. The Examiner admits that Lin fails to teach “data responsive to said job requests, wherein the servicing of a first job request via a first channel is interrupted, an unserviced portion of said data is returned from a local channel server to said central server, and said unserviced portion is subsequently serviced via a second channel so as to service a second job request via said first channel in accordance with an updated schedule.”

The Examiner contends that Bigo discloses those elements in the independent claims of the present invention that are not disclosed in Lin. However, Bigo discloses data received synchronously to a rate determined by a high priority (interrupt) program, to be processed by the tasks of a lower priority (main) program. Further, Bigo discloses the scheduling of tasks with a controlled delay relative to their corresponding requests, so that free processing windows are created for execution of asynchronous tasks or synchronous transient overloads.

As described above with regard to the double patenting rejection, although the Examiner contends that those elements of the independent claims that are not disclosed in Lin are described

in column 1, line 65 through column 2, line 2, and column 4, lines 29-48 of Bigo, Applicants assert that there is no disclosure of an unserviced portion of data subsequently being serviced via a second channel. Thus, Bigo fails to disclose the interruption of the servicing of a first job request via a first channel, the returning of an unserviced portion of the data from a local channel server to a central server, and the subsequent servicing of the unserviced portion via a second channel so as to service a second job request via a first channel in accordance with an updated schedule, as recited in the independent claims of the present invention. Therefore, the proposed combination of Lin and Bigo fails to disclose each limitation of the present invention as recited in independent claims 1, 25 and 26.

Applicants assert that dependent claims 2-4 and 18 are patentable at least by virtue of their dependency from independent claim 1. Dependent claims 2-4 and 18 also recite patentable subject matter in their own right. Lin fails to disclose the servicing of job requests via a plurality of local channel servers, as recited in claim 2. Further, Bigo fails to disclose the updating of a schedule upon the arrival of a new job request or an interrupted first job request at a central server, as recited in claims 3 and 4. Finally, neither Lin nor Bigo disclose the processing of a plurality of pending job requests prior to receiving the new job request at the central server of an on-line system, as recited in claim 18.

Applicants further assert, with respect to claims 1-4, 18, 25 and 26, that no motivation exists to combine Lin and Bigo in a manner proposed by the Examiner, or to modify their teachings to meet the claim limitations.

The Federal Circuit has stated that when patentability turns on the question of obviousness, the obviousness determination “must be based on objective evidence of record” and that “this precedent has been reinforced in myriad decisions, and cannot be dispensed with.” In re Sang-Su Lee, 277 F.3d 1338, 1343 (Fed. Cir. 2002). Moreover, the Federal Circuit has stated that “conclusory statements” by an examiner fail to adequately address the factual question of motivation, which is material to patentability and cannot be resolved “on subjective belief and unknown authority.” Id. at 1343-1344.

In the Office Action, in paragraph 7 on page 4, the Examiner provides the following statement to prove motivation to combine Lin and Bigo:

It would have been obvious . . . to include the feature of resuming execution on a different thread/task when a prior thread is interrupted to the existing system in order to benefit from the benefits and advantages of multi-threading and parallelism, such as increasing the speed and efficiency of thread processing.

Applicants submit that this statement of obviousness is conclusory, and based on the type of “subjective belief and unknown authority” that the Federal Circuit has indicated provides insufficient support for an obviousness rejection. The Examiner also fails to identify any objective evidence of record which supports the proposed combination.

Lastly, with respect to claims 1-4, 18, 25 and 26, Applicants assert that there is no reasonable expectation of success in achieving the present invention through a combination of Lin and Bigo. Contrary to the assertion made by the Examiner in the Office Action, Applicants respectfully submit that Lin and Bigo are not combinable since it is not clear how one would combine them to reach the claimed invention. No guidance was provided in the Office Action as to how the two references can be combined to achieve the present invention. However, even if combined, for the sake of argument, they would not achieve the techniques of the claimed invention, as described above. Accordingly, withdrawal of the §103(a) rejection of claims 1-4, 18, 25 and 26 is respectfully requested.

In view of the above, Applicants believe that claims 1-26 are in condition for allowance, and respectfully request withdrawal of the double patenting and §103(a) rejections.

Respectfully submitted,



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